

104 Commonality	106 Modularity	108 Standards Based	110 RMT
<ul style="list-style-type: none"> Physical Commonality (Within the system) <ul style="list-style-type: none"> HW Commonality <ul style="list-style-type: none"> Number of Unique LRUs Number of Unique Fasteners Number of Unique Cables Number of Unique Standards Implemented SW Commonality <ul style="list-style-type: none"> Number of Unique SW Packages Implemented Number of Languages Number of Compilers Average Number of SW Instantiations Physical Familiarity (From other systems) <ul style="list-style-type: none"> % Vendors Known % Subcontractors Known % HW Technology Known % SW Technology Known Operational Commonality <ul style="list-style-type: none"> % of Operational Functions Automated Number of Unique Skill Codes Required Estimated Operational Training Time - Initial Estimated Operational Training Time - Refresh from Previous System Estimated Maintenance Training Time - Initial Estimated Maintenance Training Time - Refresh from Previous System 	<ul style="list-style-type: none"> Physical Modularity <ul style="list-style-type: none"> Ease of system element upgrade <ul style="list-style-type: none"> Lines of modified code Amount of labour hours for system rework Ease of operating system upgrade <ul style="list-style-type: none"> Lines of modified code Amount of labour hours for system rework Functional Modularity <ul style="list-style-type: none"> Ease of adding new functionality <ul style="list-style-type: none"> Lines of modified code Amount of labour hours for system rework Ease of upgrade existing functionality <ul style="list-style-type: none"> Lines of modified code Amount of labour hours for system rework Orthogonality <ul style="list-style-type: none"> Are functional requirements fragmented across multiple processing elements and interfaces? Are there throughput requirements across interfaces? Are common specifications identified? Abstraction <ul style="list-style-type: none"> Does the system architecture provide an option for information hiding? Interfaces <ul style="list-style-type: none"> # of Unique Interfaces per System Element # of Different Networking Protocols Explicit versus Implicit Interfaces Does the architecture involve implicit interfaces? # of Cables in the System 	<ul style="list-style-type: none"> Open Systems Orientation <ul style="list-style-type: none"> Interface Standards <ul style="list-style-type: none"> # of Interface Standards/# of Interfaces Multiple Vendors (Greater than 5) Exist for Products Based on Standards Multiple Business Domains Apply/Use Standard (Aerospace, Medical, Telecommunications) Standard Maturity Hardware Standards <ul style="list-style-type: none"> # of Form Factors/# of LRUs Multiple Vendors (Greater than 5) Exist for Products Based on Standards Multiple Business Domains Apply/Use Standard (Aerospace, Medical, Telecommunications) Standard Maturity Software Standards <ul style="list-style-type: none"> # of proprietary & unique operating systems # of non-std databases # of proprietary middle-ware # of non-std languages Consistency Orientation <ul style="list-style-type: none"> Common Guidelines for Implementing Diagnostics and PM/FL Common Guidelines for Implementing OMI 	<ul style="list-style-type: none"> Reliability <ul style="list-style-type: none"> Fault Tolerance <ul style="list-style-type: none"> % of mission critical functions with single points of failure % of safety critical functions with single points of failure Critical Points of Delicateness (System Loading) <ul style="list-style-type: none"> % Processor Loading % Memory Loading How critical is this? % Network Loading How critical is this? Maintainability <ul style="list-style-type: none"> Expected MTTR Maximum Fault Group Size Is system operational during maintenance? Accessibility <ul style="list-style-type: none"> Are there space restrictions? Are there special tool requirements? Are there special skill requirements? Testability <ul style="list-style-type: none"> # of LRUs covered by BIT (BIT Coverage) Reproducibility of Errors <ul style="list-style-type: none"> Logging/Recording Capability Create system state at time of system failure? Online Testing <ul style="list-style-type: none"> Is system operational during external testing? Ease of access to external testpoints? Automated Input/Stimulation Insertion

FIG. 1

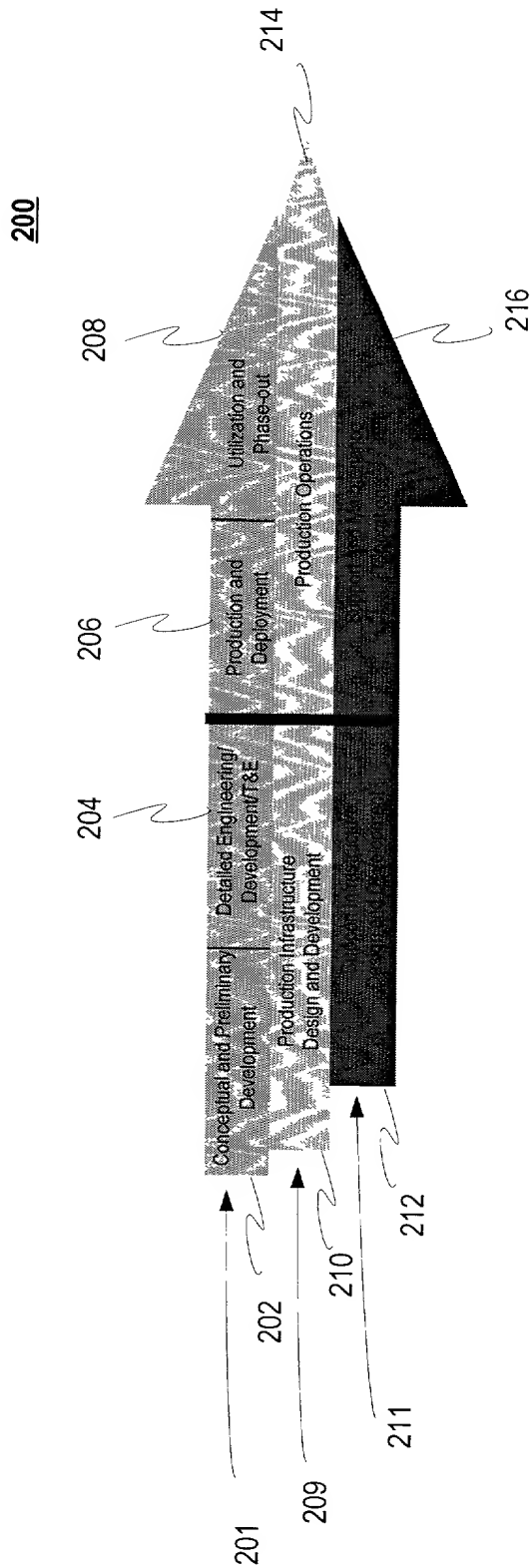


FIG. 2A

Commitment to System
Architecture/Configuration, Life-Cycle
Cost/DIA, Resource Requirements,
and so on.

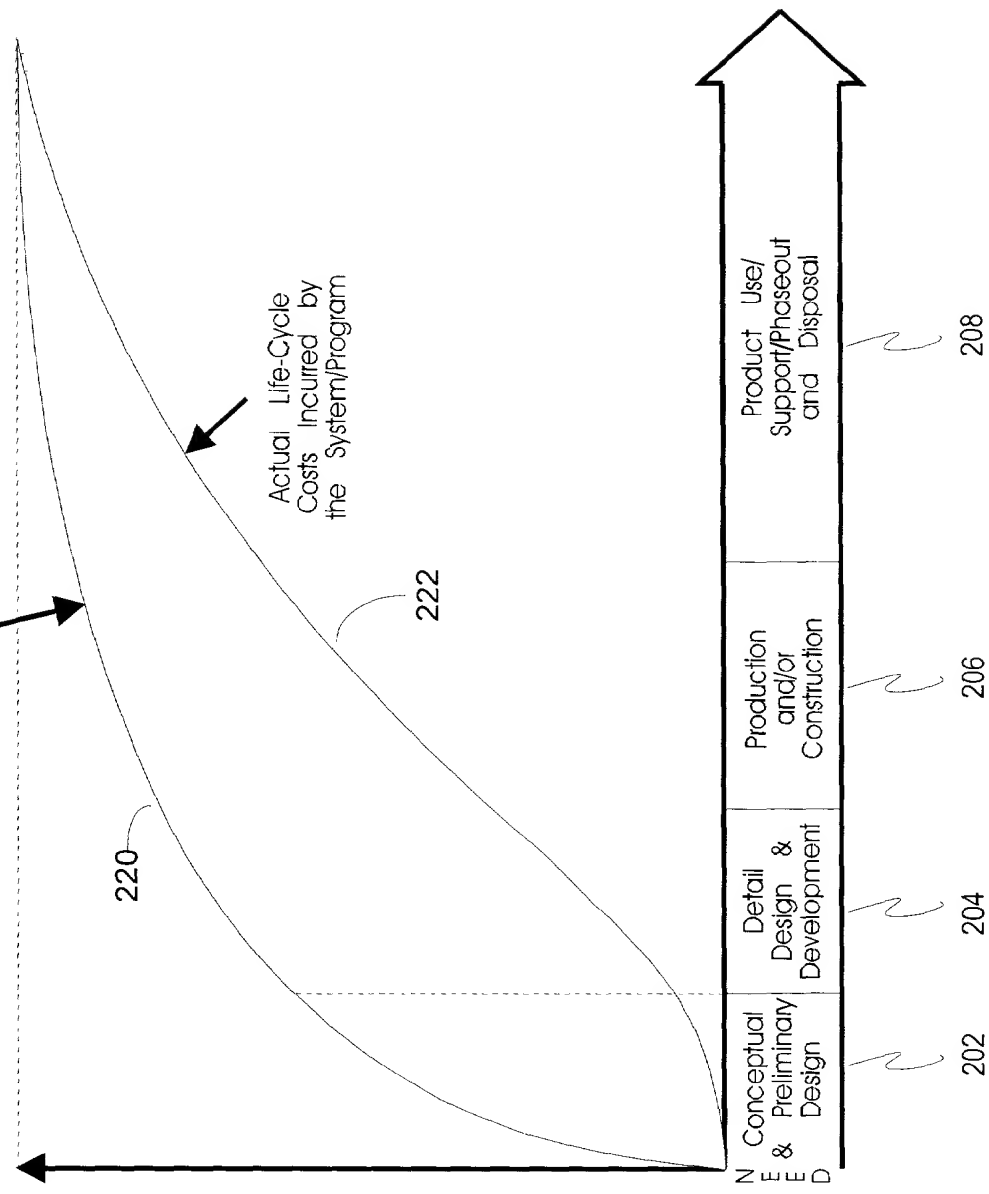


FIG. 2B

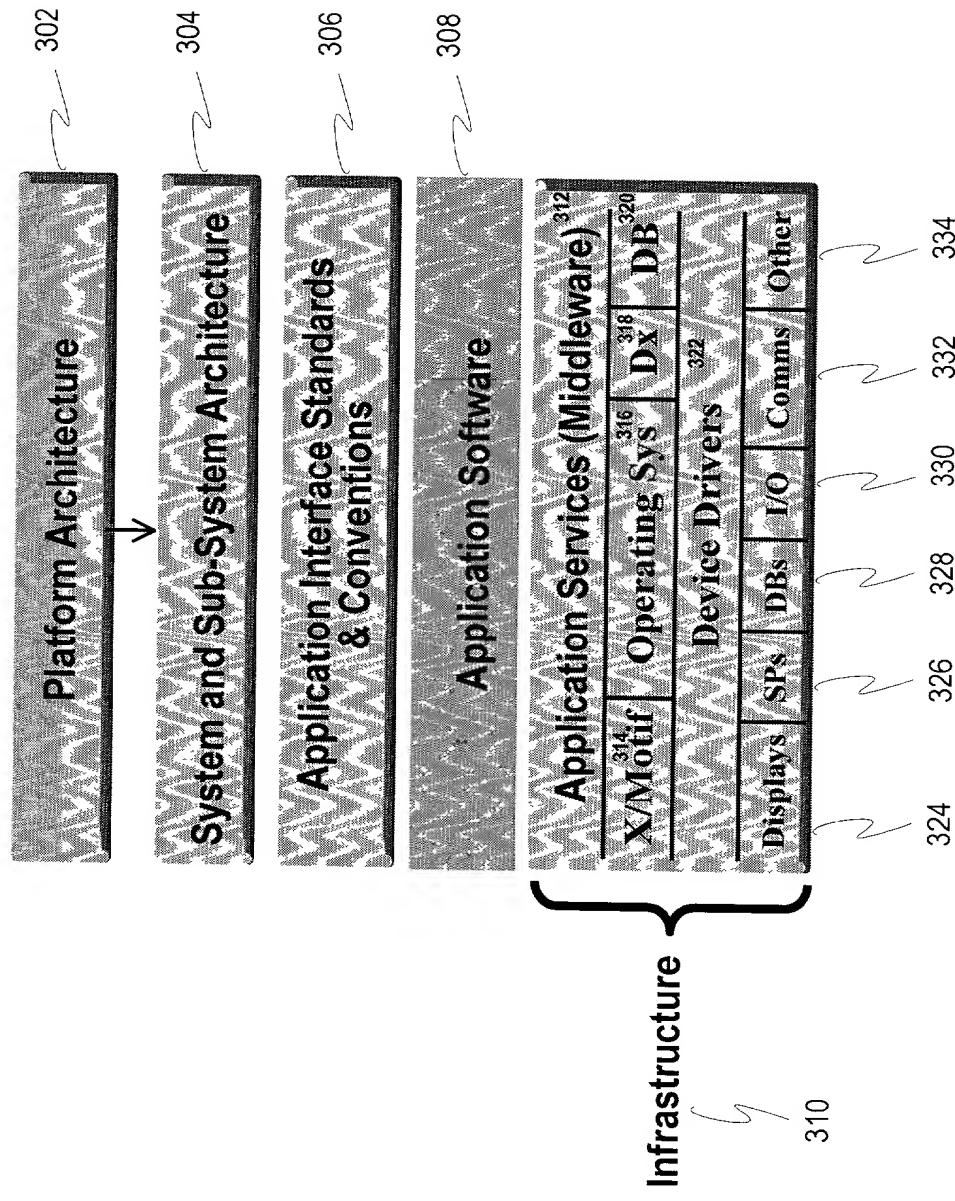


FIG. 3

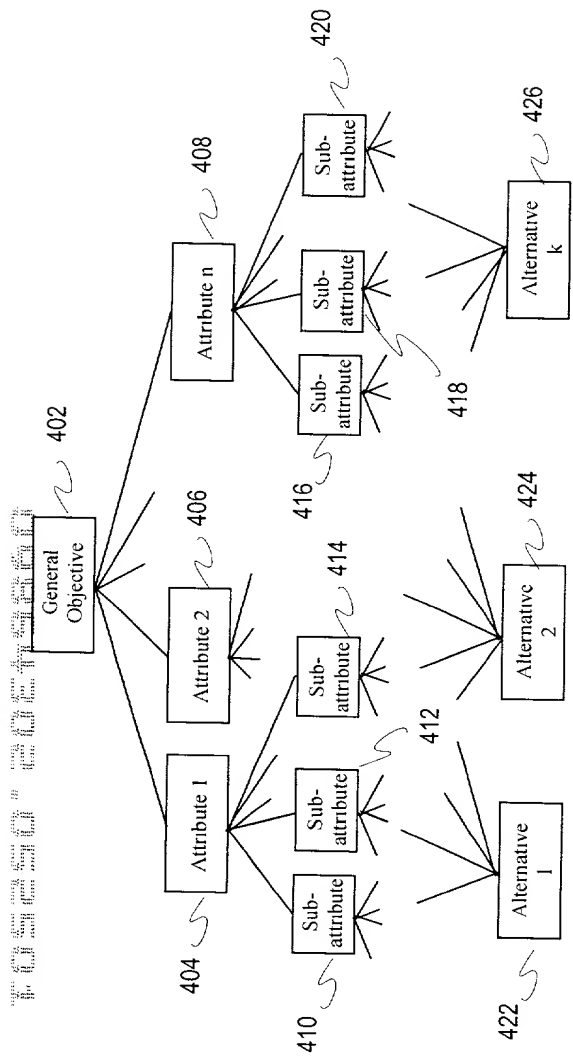


FIG. 4

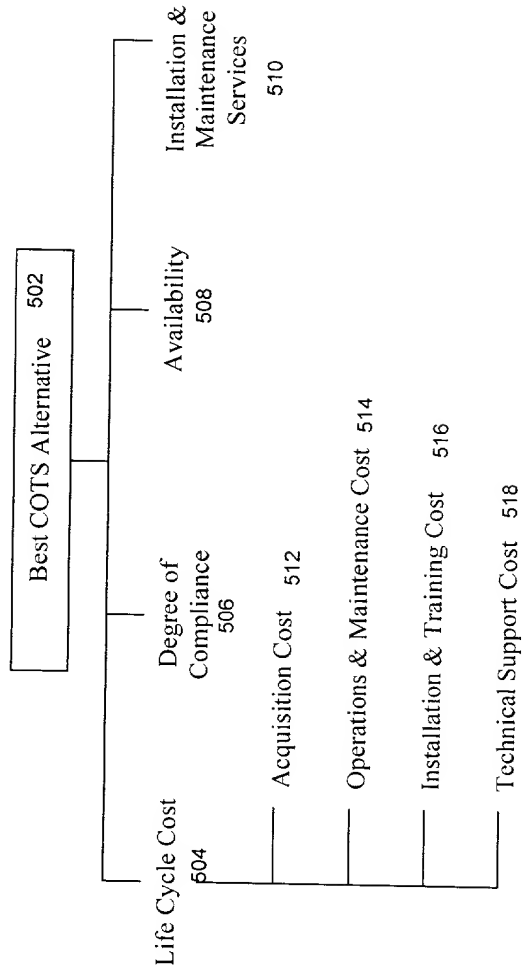


FIG. 5

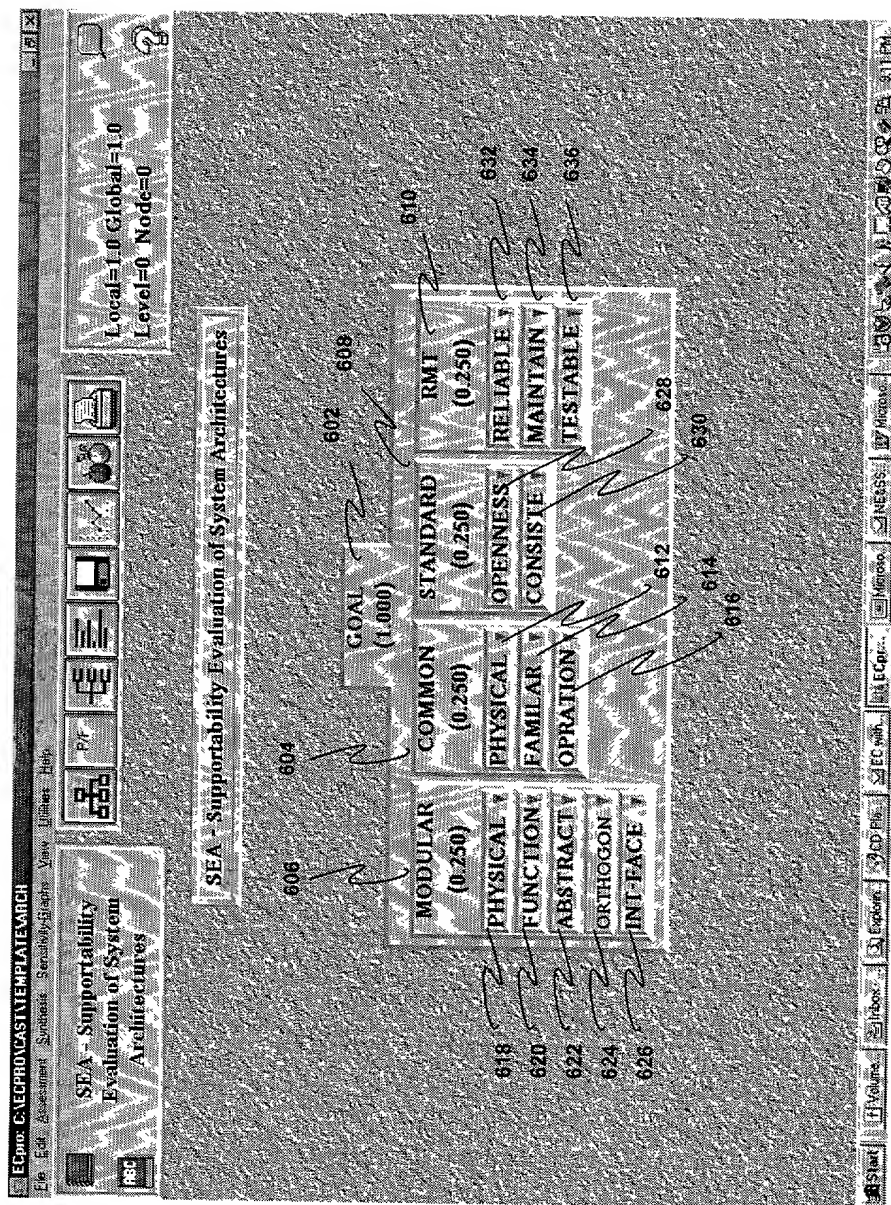


FIG. 6A

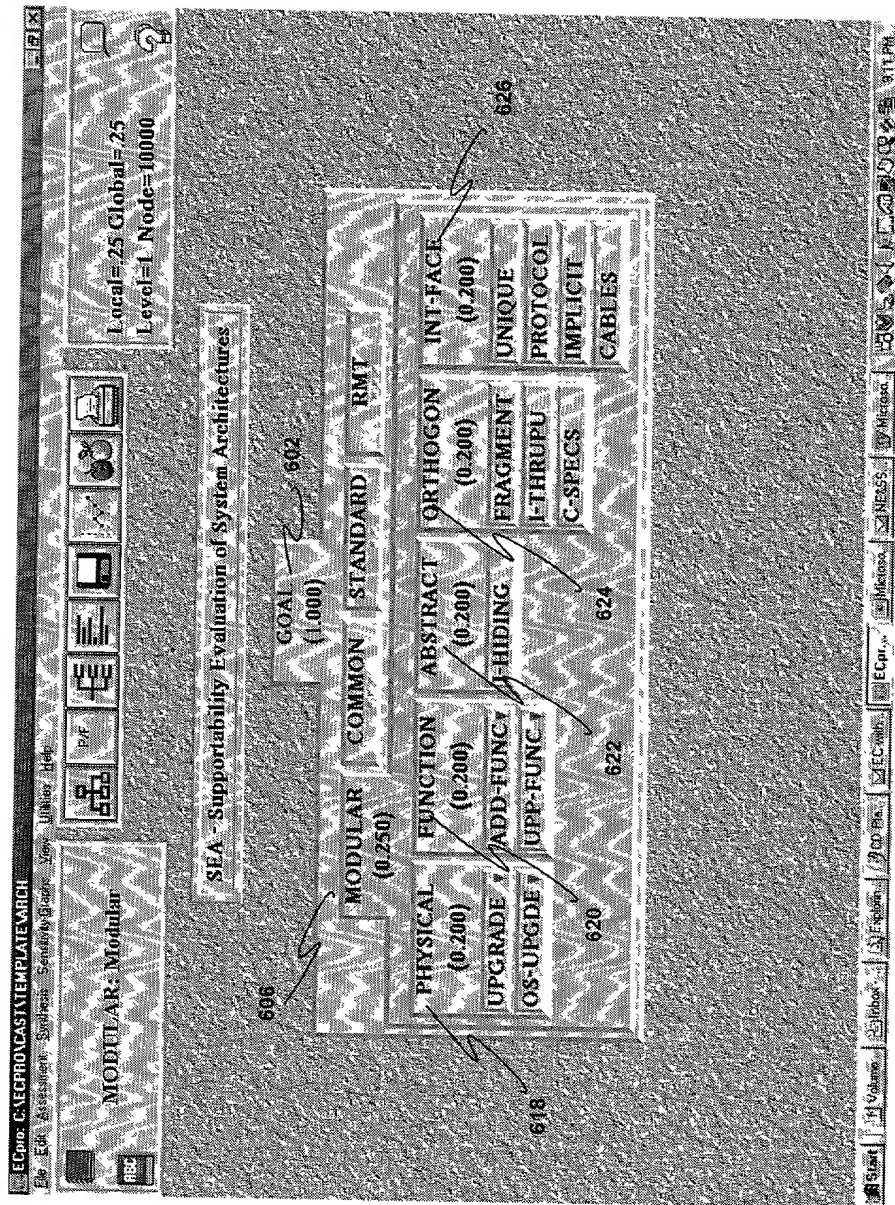


FIG. 6B

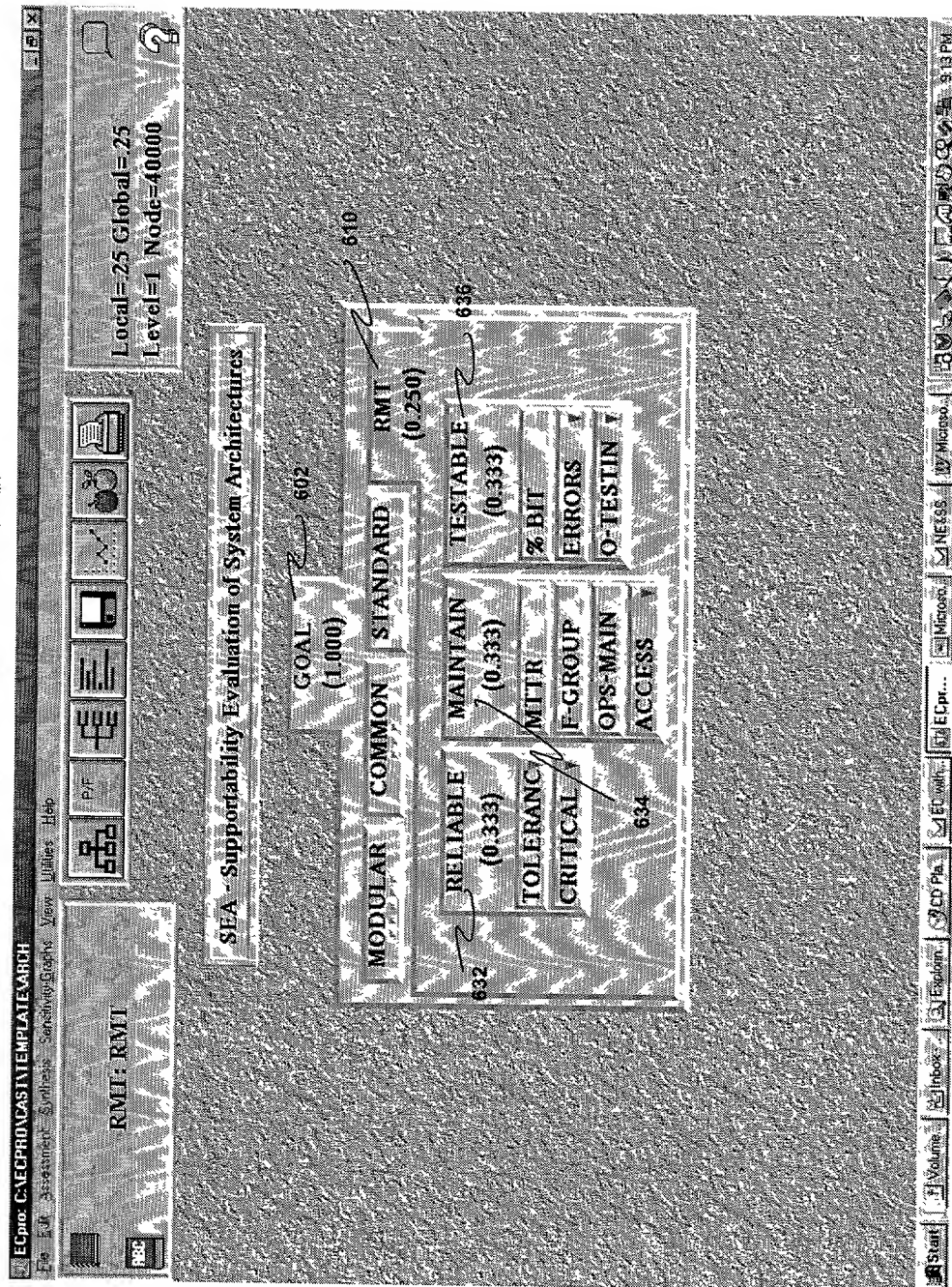


FIG. 6C

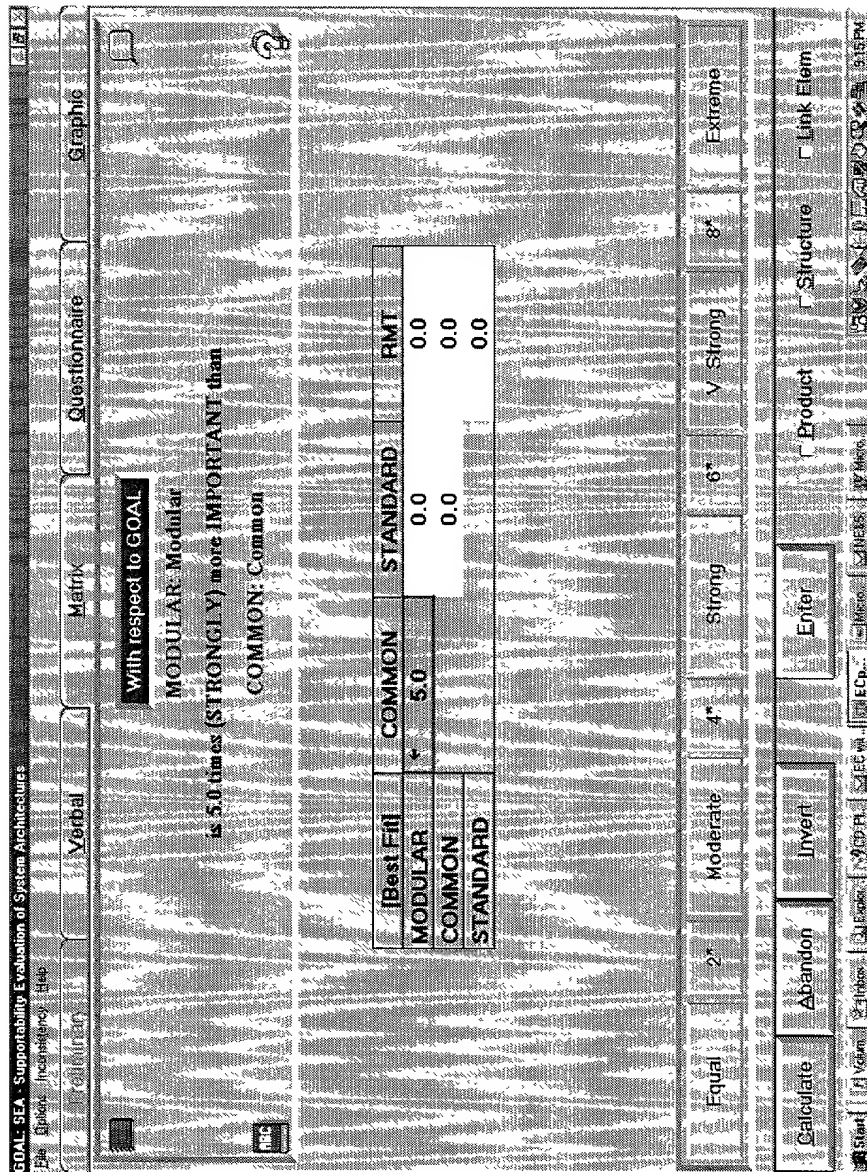


FIG. 6D